

Silicon - Z-Diode

BZX55C13

13V

500mW Z-Diode

DATASHEET

OEM – Fairchild

Source: Fairchild Databook 1978

BZX55C3V3 – BZX55C33

500 mW SILICON ZENER DIODES

ABSOLUTE MAXIMUM RATINGS (Note 1)

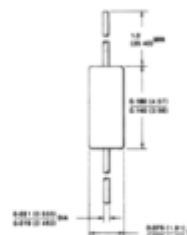
Temperatures

Storage Temperature Range	-65°C to +200°C
Maximum Junction Operating Temperature	+200°C
Lead Temperature	+260°C

Power Dissipation (Note 2)

Maximum Total Power Dissipation at 25°C Ambient	500 mW
Linear Power Derating Factor (from 25°C)	2.85 mW/°C
Maximum Surge Power (Note 4)	30 W

DO-35 OUTLINE



NOTES:
Copper clad steel leads, tin plated
Gold plated leads available
Hermetically sealed glass package
Package weight is 0.14 gram

ELECTRICAL CHARACTERISTICS (25°C Ambient)

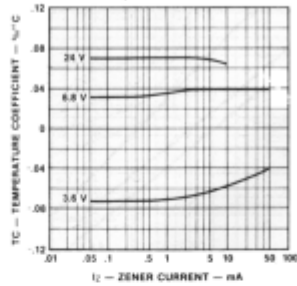
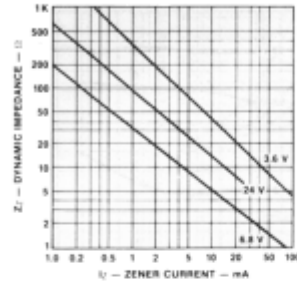
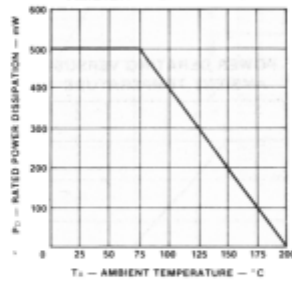
SYMBOL	V _Z		Z _Z	Z _{ZK}	I _R	V _{RT}	I _{ZM}	TC
	Zener Voltage (Note 3) @I _Z =5.0 mA		Maximum Zener Impedance @I _Z =5.0 mA	Maximum Zener Knee Impedance @I _{ZK} =1.0 mA	Maximum Reverse Current @V _{RT} 150°C	Test Voltage	Maximum Zener Current	Typical Temperature Coefficient of V _Z
	MIN	MAX						
UNIT	V	V	Ω	Ω	μA	V	μA	%/°C
BZX55C3V3	3.1	3.5	85	600	40	1.0	115	-0.060
BZX55C3V6	3.4	3.8	85	600	40	1.0	108	-0.055
BZX55C3V9	3.7	4.1	80	600	40	1.0	100	-0.050
BZX55C4V3	4.0	4.6	70	600	40	1.5	90	-0.040
BZX55C4V7	4.4	5.0	60	600	30	1.5	85	-0.020
BZX55C5V1	4.8	5.4	35	550	2.0	1.0	79	+0.010
BZX55C5V6	5.2	6.0	25	450	2.0	1.0	74	+0.025
BZX55C6V2	5.8	6.6	10	200	2.0	2.0	69	+0.032
BZX55C6V6	6.4	7.2	6.0	150	2.0	3.0	64	+0.040
BZX55C7V5	7.0	7.9	7.0	50	2.0	5.0	59	+0.045
BZX55C8V2	7.7	8.7	7.0	50	2.0	6.0	54	+0.048
BZX55C9V1	8.5	9.6	10	50	2.0	7.0	49	+0.050
BZX55C10	9.4	10.6	15	70	2.0	7.5	44	+0.055
BZX55C11	10.4	11.6	20	70	2.0	8.5	40	+0.060
BZX55C12	11.4	12.7	20	90	2.0	9.0	36	+0.065
BZX55C13	12.4	14.1	26	110	2.0	10	32	+0.070
BZX55C15	13.8	15.6	30	110	2.0	11	30	+0.070
BZX55C16	15.3	17.1	40	170	2.0	12	27	+0.075
BZX55C18	16.8	19.1	50	170	2.0	14	24	+0.075
BZX55C20	18.8	21.2	55	220	2.0	15	22	+0.080
BZX55C22	20.8	23.3	55	220	2.0	17	20	+0.080
BZX55C24	22.8	25.6	80	220	2.0	18	18	+0.085
BZX55C27	25.1	28.9	80	220	2.0	20	16	+0.085
BZX55C30	28.0	32.0	80	220	2.0	22	15	+0.085
BZX55C33	31.0	35.0	80	220	2.0	24	13	+0.085

NOTES:

- These ratings are limiting values above which the serviceability of the diode may be impaired.
- These are steady state limits. The factory should be consulted on application involving pulsed or low duty-cycle operation.
- ± 20%, ± 10%, ± 2% and ± 1% V_Z tolerance versions are available.
- Non-recurrent square wave, PW = 100 μs, T_J = 150°C.
- V_F = 1.0 V (max) @ I_F = 100 mA for all types.
- For product family characteristic curves, refer to Chapter 4, D13.

CURVE SET NUMBER D13

500 mW ZENER

TYPICAL ELECTRICAL CHARACTERISTICS
AT 25°C AMBIENT TEMPERATURETEMPERATURE COEFFICIENT
VERSUS ZENER CURRENTDYNAMIC IMPEDANCE
VERSUS ZENER CURRENTPOWER DERATING VERSUS
AMBIENT TEMPERATURE

NOISE DENSITY MEASUREMENT CIRCUIT

1N4099 - 1N4121

1N4620 - 1N4627

